UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

July 29, 2008

W. Michael Sullivan, Commissioner
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, RI 02908-5767

Re: Review and Action on Water Quality Standards Revisions

Dear Commissioner Sullivan:

By letter of June 23, 2006, the Rhode Island Department of Environmental Management (DEM) submitted an update of its Water Quality Regulations to the Environmental Protection Agency (EPA) for review. The revised regulations were adopted June 21, 2006 with an effective date of July 11, 2006, and included revisions to Rhode Island's surface water quality standards. A copy of the regulations with the revisions clearly identified was later provided to EPA, and the revisions were certified by DEM's Legal Counsel on October 2, 2006 as having been duly adopted pursuant to state law. By letter of January 4, 2007 EPA approved many of the revisions and identified other portions of the submittal that were still under review. EPA has completed its review of the revisions to the bacteria criteria for fecal coliform and enterococci with regard to primary contact recreation uses at Rule 8.D.(2) 4 and 5, and Rule 8.D.(3) 4, and 5.

Pursuant to Section 303(c)(3) of the Clean Water Act (CWA) and 40 CFR Part 131, I hereby approve these revisions. This action completes EPA's review of bacteria criteria revisions adopted by DEM on June 21, 2006.

EPA's approval of Rhode Island's surface water quality standards revisions does not extend to waters that are within Indian territories and lands. EPA is taking no action to approve or disapprove the State's revisions with respect to those waters at this time. EPA will retain responsibility under Sections 303(c) and 303(d) of the Clean Water Act for those waters.

We are still reviewing the revisions to Rule 19.E.(1)(a) and (b)i, ii, iii, and iv concerning the potential for future reclassification of specified waters from Class SA to Class SA{b}; reclassification of six waters (water body ID numbers RI0007025E-06A, RI0007025E-06C, RI0007027E-05, RI0007032E-01E, RI0010043E-06I, and RI0010031E-02A) from Class SA to Class SB at Appendix A; revisions to the freshwater and saltwater chronic mercury criteria for the protection of aquatic life; and the freshwater acute and chronic xylene criteria for the protection of aquatic life at Appendix B. Therefore we are not taking action with respect to these revisions at this time.

The water quality standards regulation at 40 C.F.R. § 131.6 contains an outline of the minimum elements to be included in a State's submittal of water quality standards for EPA review.

Information supporting revisions to the standards is one of those elements. EPA will contact your staff if further information is needed to complete our review.

Supporting Discussion of Approvals

Enterococci Criteria for Primary Contact Recreation

Sea water

DEM adopted enterococci criteria for the protection of primary contact recreation for Class SA, SA{b}, SB, SB1, SB{a}, and SB1{a} waters (all sea waters designated for primary contact recreation) consistent with both EPA's recommended geometric mean and single sample maximum at the "designated beach" level of protection (Ambient Water Quality Criteria for Bacteria – 1986, EPA440/5-84-002, January 1986).

EPA evaluated the enterococci standards pursuant to Section 303(c) of the Clean Water Act and Section 303(i) of the Clean Water Act as amended by the Beaches Environmental Assessment and Coastal Health (BEACH) Act. The BEACH Act requires States to adopt water quality standards for pathogens and pathogen indicators in coastal recreation waters that are as protective of human health as EPA's 1986 water quality criteria recommendations for bacteria. Section 303(i)(2)(A) of the BEACH Act also required EPA to promulgate water quality standards as protective of human health as EPA's 1986 bacteria criteria recommendations for States that did not have such standards. States with coastal recreation waters were required to adopt new or revised standards consistent with the BEACH Act requirements by April 10, 2004. On November 16, 2004, EPA promulgated standards for coastal recreation waters in all States that had not adopted such standards, including Rhode Island (see 69 FR 67218, Nov.16, 2004, and 40 C.F.R. 131.41((e)(2) (the "BEACH Act Rule"), as discussed further below.

EPA has determined that Rhode Island's newly adopted enterococci standards comply with the requirements of Sections 303(c) and 303(i) of the Clean Water Act and implementing regulations at 40 C.F.R. Part 131. As noted above, the enterococci criteria adopted by the State for its marine waters include both a single sample maximum and a geometric mean, with values that are as protective of human health as EPA's 1986 bacteria criteria recommendations. The single sample maximum includes an asterisk with the statement "Criteria for determining beach swimming advisories at designated beaches as evaluated by HEALTH." In a letter of November 16, 2006, DEM clarified that this statement reflects Rhode Island's intention to use the single sample maximum ("SSM") for determining whether to issue beach swimming advisories only at designated beaches, but the SSM was adopted for and applies to all coastal waters. This is consistent with Section 303(i) of the Clean Water Act and the BEACH Act Rule. Because Rhode Island's SSM applies to all coastal recreation waters in Rhode Island and is established at the level EPA recommends for designated bathing beaches, Rhode Island's SSM for coastal recreation waters is consistent with CWA Section 303(i).

Rhode Island also adopted revisions to its standards for fecal coliform in coastal recreation waters for the protection of primary contact recreation. While Rhode Island's criteria for fecal coliform are "applied only when adequate enterococci data are not available," EPA interprets Rhode Island's standards for enterococci as applicable for all Clean Water Act programs such as assessment and NPDES permits, even in the absence of monitoring data. Rhode Island's standards do not specify a minimum number of samples that must be taken in order to use the geometric mean for assessment. EPA's 2006 Fact Sheet related to the BEACH Act Rule explains that states "...may elect to apply the geometric mean criterion regardless of the number of samples used to collect the geometric mean, which was the approach EPA envisioned when it promulgated the Beach Act rule." (See "Water Quality Standards for Coastal Recreation Waters: *Using Single Sample Maximum Values in State Water Quality Standards"* (August 2006, EPA-823-F-06-013), p.6.) The Fact Sheet also indicates that states may elect to include a minimum sample set size as part of its geometric mean criterion, but in that event a state would need to have another component of its criteria, such as the SSM, that would apply when there are fewer samples than the minimum sample set size. (Id). We note that Rhode Island's 2007 Consolidated Assessment and Listing Methodology ("CALM") specifies at least five samples to be necessary to determine a geometric mean. While we agree that it is desirable to have at least five data points for calculating the geometric mean, we do not interpret the CALM's identification of a minimum sample set size to be part of the water quality standards. Further, in order to be as protective of human health as EPA's 1986 bacteria criteria (as required by CWA section 303(i) for coastal recreation waters) we interpret Rhode Island's geometric mean to be applicable regardless of the number of available samples. Thus, EPA expects that Rhode Island will conduct water quality assessments for recreation using the standards for enterococci, even if there are fewer than five samples. In addition, we expect Rhode Island to include in its RIPDES permits any water quality based effluent limitations necessary to achieve the criteria for enterococci, as required by 40 C.F.R. 122.44(d)(1).

Finally, we note that in correspondence of June 4, 2008 responding to questions raised by EPA during its review, Rhode Island stated that it does not exclude natural or wildlife sources when applying its bacteria criteria. EPA understands this to mean that Rhode Island does not exempt from its enterococci criteria fecal contamination from non-human sources. This is also consistent with the Beach Act Rule, which states that the criteria values apply to enterococci regardless of origin (with one exception that is not applicable here).

In conclusion, the revisions approved here for Rhode Island Class SA, SA{b}, SB, SB1, SB{a}, and SB1{a} waters satisfy both Sections 303(c) and 303(i) of the CWA and constitute the basis for Rhode Island to be removed from the BEACH Act Rule. As explained in the rule, the standards for bacteria approved here will be in effect for CWA purposes (as opposed to the criteria at 40 C.F.R. §131.41) between the time of this approval and formal withdrawal of Rhode Island from the rule.

Fresh water

DEM adopted enterococci criteria for the protection of primary contact recreation for Class AA, A, B, B1, B{a}, and B1{a} waters (all fresh waters designated for primary contact recreation) consistent with both EPA's recommended geometric mean and single sample maximum at the "designated beach" level of protection (Ambient Water Quality Criteria for Bacteria – 1986, EPA440/5-84-002, January 1986). The geometric mean values differ for "Designated Bathing Beach Waters" and other waters designated for primary contact recreation, i.e., "Non-Designated Bathing Beach Waters" (33 colonies/100 ml and 55 colonies/100 ml for the two groups respectively). The difference is due to use of a risk level of 8 illnesses per 1000 swimmers vs.10 illnesses per 1000 swimmers. EPA has determined that both risk levels are acceptable as explained in "Water Quality Standards for Coastal and Great Lakes Recreation Waters," 69 FR 67218, November 16, 2004, and subsequent guidance issued by EPA entitled "Acceptable Risk Levels in Great Lakes Waters," EPA-823-F-06-012, August 2006. EPA is approving the adopted bacteria indicators and criteria numbers as being protective of designated uses for the reasons discussed in EPA's 1986 bacteria criteria document and the BEACH Act Rule cited above.

The single sample maximum includes an asterisk with the statement "Criteria for determining beach swimming advisories at designated beaches as evaluated by HEALTH." In a letter of November 16, 2006 DEM clarified that this statement reflects Rhode Island's intention to use the SSM for determining whether to issue beach swimming advisories only at designated beaches, but the single sample maximum was adopted for and applies to all fresh water bodies. This is consistent with Rhode Island's approach for marine waters and with the federal rule and guidance cited above.

Though the federal BEACH Act Rule applied only to coastal recreation waters as defined by Section 502(21) of the Clean Water Act, EPA believes that the principles discussed above concerning application of the geometric mean in accordance with EPA's 1986 bacteria criteria document are appropriate for fresh waters as well. As is the case for Rhode Island's coastal/sea waters, EPA expects Rhode Island to apply its geometric mean enterococci criterion for fresh water even if there are fewer than five samples (we note that as for coastal/sea waters, Rhode Island's water quality standards do not specify a minimum number of samples, but its CALM specifies at least five samples as being necessary to determine a geometric mean).

Further, based on DEM's correspondence of June 4, 2008, it is EPA's understanding that Rhode Island does not exempt from its fresh water enterococci criteria fecal contamination from non-human sources.

Fecal Coliform

In addition to adopting enterococci criteria, DEM made revisions to its numeric fecal coliform criteria for fresh waters and sea waters designated for primary contact recreation, and distinguished between fecal coliform criteria for the protection of

recreation and fecal coliform criteria for the protection of other uses, i.e., drinking water supply and shellfishing. The result is that all waters designated for primary contact recreation have fecal coliform criteria, both the geometric mean and the individual sample value, that are at least as stringent as fecal coliform criteria previously recommended by EPA (a geometric mean of 200/100 ml, with no more than 10% of the total samples exceeding 400/100 ml). Fresh waters have criteria equivalent to EPA's former recommendation. Sea waters have a lower geometric mean (50/100ml vs. EPA's 200/100ml). DEM accompanied the fecal coliform criteria with a statement that they are "applied only when adequate enterococci data are not available." As discussed above, EPA interprets Rhode Island standards for enterococci to apply even if there are fewer than five samples. Thus, available enterococci data showing nonattainment are to be used for § 303(d) listing decisions regardless of any decision that could be reached based on fecal coliform data. However, Rhode Island would still be free to list a water on its § 303(d) list based on a robust data set for fecal coliform, where, for example, a single analysis for enterococci shows attainment.

EPA no longer recommends the use of fecal coliform for the protection of primary contact recreation uses, and EPA is approving DEM's revision of its fecal coliform criteria only because DEM also adopted enterococci criteria consistent with CWA Sections 303(c) and 303(i) and EPA's bacteria criteria recommendations -- "Ambient Water Quality Criteria for Bacteria – 1986," EPA440/5-84-002, January 1986." In the BEACH Act Rule for coastal waters, EPA promulgated the 1986 indicator criteria as an addition to States' existing criteria for fecal coliform. EPA recognized that the existing fecal coliform criteria would facilitate ongoing regulatory decisions while data for the 1986 indicators were being collected. See 69 Fed. Reg. at 67228. In making today's approval, EPA expects that DEM will make a concerted effort to collect data for enterococci.

We look forward to continued cooperation with Rhode Island in the development, review, and approval of water quality standards pursuant to our responsibilities under the Clean Water Act. Please contact me or either Bill Beckwith (617-918-1544) or Steven Winnett (617-918-1687) of my staff if you have any questions.

Sincerely,

Stephen S. Perkins, Director
Office of Ecosystem Protection

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